450517

knight

MODEL KN 2565 CITIZENS BAND TRANSCEIVER

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OPERATING AND INSTALLATION INSTRUCTIONS

RECEIVER

Double conversion superheterodyne with 23 crystal controlled channels. Continuous tuning plus or minus 3.0 KC around each channel center frequency. Built in squelch control, automatic noise limiting, full A.V.C., standby, and P.A.

I.F. FREQUENCY:	7.5 MC & 475 KC
NOISE LIMITER:	Series type
AUDIO OUTPUT:	2.5 Watts
RECEIVER SENSITIVITY:	0.5 uv for 10DB $\frac{S+N}{N}$
PRIMARY IMAGE REJECTION:	50 db minimum
SELECTIVITY:	± 3.0 KC @ 6 DB

TRANSMITTER

POWER INPUT:	5 Watts in final
POWER OUTPUT:	3.0 Watts nominal
MODULATION:	100% negative minimum 65% positive minimum
OUTPUT IMPEDANCE:	30-75 ohms
FREQUENCY STABILITY:	± .005%

GENERAL

POWER CONSUMPTION:	117 V. AC Standby condition, current—.32 amps
	AC Receive condition, current—.92 amps
	AC Transmit condition, current—1.02 amps
	12.6 V. DC Standby condition, current—3.2 amps
	DC Receive condition, current—5.8 amps
	DC Transmit condition, current—6.6 amps

NOTE: Do not attempt to operate this unit on 6 V DC.

CONTROLS AND FEATURES

FRONT PANEL CONTROLS AND FEATURES

VOLUME ON-OFF CONTROL

SQUELCH-STANDBY CONTROL

TUNING CONTROL

CHANNEL SELECTOR SWITCH

PUBLIC ADDRESS-RECEIVE SWITCH

MICROPHONE JACK

HEADPHONE JACK

2-WAY METER:

a. "S" meter on receive
b. Relative power output on transmit

MODULATION INDICATOR

ILLUMINATED DIAL AND METER

INSTALLATION OF ANTENNA

Since the maximum allowable power input to the RF amplifier is fixed, the most important single factor determining optimum transmission is the antenna. The antenna chosen should be selected for each transceiver on the basis of the application involved.

INSTALLATION OF FIXED ANTENNA

For short range communication an inexpensive base load type antenna or spiral whip antenna will be adequate. An antenna of the "ground plane" type will provide greater, more reliable coverage. Both of these types are essentially non-directional and are ideal for applications involving fixed-to-mobile operation.

The directional "beam" type antenna may be used to extend the range of the Transceiver and will provide reliable communication over an unusually long range or under adverse weather conditions. Because of their directional properties these antennas are ideal for point-to-point communication, that is, from one fixed station to another. With the use of a rotator a beam antenna may be rotated for full 360 degree coverage.

The range of the transceiver also has a direct bearing on the height of the antenna used. Regardless of the type chosen, always locate the antenna as high as

possible, within the legal limits established by the F.C.C. (The regulations limit the height of the antenna to a maximum of 20 feet above the structure on which the antenna is mounted). It is important, therefore, to choose a location for the transceiver that is favorable to your antenna location. A long lead-in cable will introduce a certain amount of power loss and should be avoided where possible unless the antenna location justifies its use. When longer lengths of cable are necessary, however, larger RG8/U polyfoam coax will offer the minimum line loss.

Wherever possible, use a good water pipe ground. In most cases this will provide greatly improved operation.

INSTALLATION OF MOBILE ANTENNA

The type of antenna best suited for mobile service is a vertically polarized antenna. In any mobile installation (cars, trucks, boats, etc.) an antenna system that is non-directional has to be used. Other factors likely to offset performance are lack of a good earth ground and ignition interference. However, the base-loaded type whip antenna will normally provide good results for short range communications from 1-5 miles. Greater range and more reliable operation can be obtained with a full quarter-wave vertical whip antenna. Both of these types of antennas use the metal body of the vehicle as a "ground plane". If the transceiver is not mounted to any metal surface, it will be necessary to run a separate ground wire from the unit to a good metal ground in the vehicle. If installed in a boat the transceiver will not operate at maximum efficiency without a ground plate, unless your vessel has a steel hull. Before installing the transceiver, consult a qualified marine technician regarding an adequate grounding system.

ANTENNA TERMINATION

The antenna lead-in cable, RG-58/U or RG8/U, should be terminated with a UHF type PL-259 connector. The receptacle located on the transceiver accepts this type of connector.

IGNITION INTERFERENCE

Engine ignition interference in a car or truck should not present a serious problem. The suppression carried out on vehicles equipped with a standard broadcast radio will normally suffice. However, if an ignition interference problem is present, a skilled auto radio repairman should be able to correct it for you.

Electrical noise from engines and other electrical equipment aboard a boat or vessel can render your transceiver useless. The worst offender will be the ignition system of gasoline engine powered boats. Generators on both gasoline and diesel engines, auxiliary generators, electric motors on refrigerators, bilge pumps, fans, etc., must be filtered for quiet radio reception.

Unfortunately, there is no hard and fast rule for the elimination of noise. It is best to attack the problem systematically. The ignition system can be filtered by the use of a "spark shield" made to fit most common gasoline marine engines. These shields are easily installed and can be removed for spark plug and point servicing in less than a minute.

Auxiliary generators are quieted by condenser installations. Condensers of the highest quality, in metal cans, should be used. We recommend that a capacity of 1.0 mfd be used. These are of greater capacity than the condensers normally used in automobile radio installation. The same condensers can be used to filter the other motors. Condensers are installed at the generator armature terminal or, in extreme cases, directly on each brush holder. The metal can is connected to the generator frame. Never connect a condenser to the field terminal of a generator.

The voltage regulator on the larger generators is frequently a source of troublesome noise. Before attempting any filtering on the regulator, have the unit cleaned and adjusted by an expert. If noise is still present, install condensers on the armature terminal of the regulator. Again, do not put a condenser on the field terminal.

Another, more frequent, source of noise is caused by the rotation of the propeller shaft on its various bearings. This rotation causes static electricity discharge. If noise is present when the vessel or boat is underway but goes away when you throw the engine out of gear, you most probably have "shaft noise". This noise can usually be eliminated by installing phosphor bronze "fingers" in such a way as to allow wiping contact with the shaft. The finger is then connected to the engine block with a heavy wire.

Diesel engines have no ignition system and, therefore, need no shields. The generators must be filtered just as they are for gasoline engines.

Other electrical accessories such as fans, bilge pumps, electric toilets, fresh water system motors, etc., are also a possible source of noise. These units can be noise suppressed by means of condensers.

OPERATING INSTRUCTION

The transceiver has been designed for use in class

"D" operation in the 11 meter citizens radio service. It is designed to meet the Federal Communications Commission requirements applicable to equipment operating in this service under Class "D" emission, and not to be used for any other purpose. Part 95, (formerly Part 19) of the F.C.C. regulations defines operation in this service, and you are required to read and understand these regulations prior to operating this equipment. Copies of Manual VI (covering the F.C.C. regulations for Amateur and Citizen's Band Radio Service) include Part 95 and are available for $1.25 from the Supt. of Documents, U.S. Govt. Printing Office, Washington 25, D.C. You are also required to submit a completed copy of F.C.C. Form 505 prior to operating this equipment on the air. YOU WILL BE IN VIOLATION OF PART 95 OF THE REGULATIONS IF YOU OPERATE THIS EQUIPMENT ON THE AIR PRIOR TO RECEIVING YOUR LICENSE AND CALL SIGNS.

DESCRIPTION OF CONTROLS

VOLUME CONTROL AND POWER SWITCH:—Varies the sound output from the speaker or for an external P.A. loud speaker. The control also incorporates an on-off switch at the counter-clockwise limit of rotation.

SQUELCH CONTROL:—May be used to reduce excessive noise (such as that caused by auto ignition) in those cases where the noise is greater in intensity than the signal. Turn the SQUELCH control knob just off of Standby position. Turn up the VOLUME until noise or a signal is heard. The SQUELCH control must be set when only noise (no signal) is heard. When only noise is present, turn the SQUELCH control slowly clockwise to the point where the noise just disappears. The receiver is now properly adjusted so that transmitted signals will be heard but the receiver will be quiet between transmissions. Do not turn the SQUELCH control further than is necessary to just quiet the noise as this would result in weak signals being missed that might otherwise be heard.

TUNING CONTROL:—Varies the receiver center frequency plus or minus 3.0 KC around the center frequency set by the channel selector switch. This control should be used to "peak" the S-meter reading from a received station.

CHANNEL SELECTOR SWITCH:—Selects any of the available 23 channels for both receiver and transmitter.

STANDBY SWITCH:—At extreme counter-clockwise end of SQUELCH control. Permits receiver to be kept in instant readiness at reduced current drain.

METER:—Switched automatically for both receive and transmit.

TRANSMITTING

Be sure that the proper power supply cable has been connected in the transceiver as instructed, and that the unit has an adequate ground (if not mounted to a metal surface). One of the antenna systems discussed earlier should be connected. Plug the microphone into the jack provided on the extreme left of the panel.

The crystal controlled transmitter may be operated on any of the 23 channels assigned by the F.C.C.

To transmit, push the switch of the microphone and hold it in that position. Talk directly into the microphone. Release the switch to receive. The transceiver will not function as a receiver unless the switch is released.

Note that your transceiver incorporates the latest in design and engineering. It includes a newly developed circuit for indicating relative r.f. power output to the antenna.

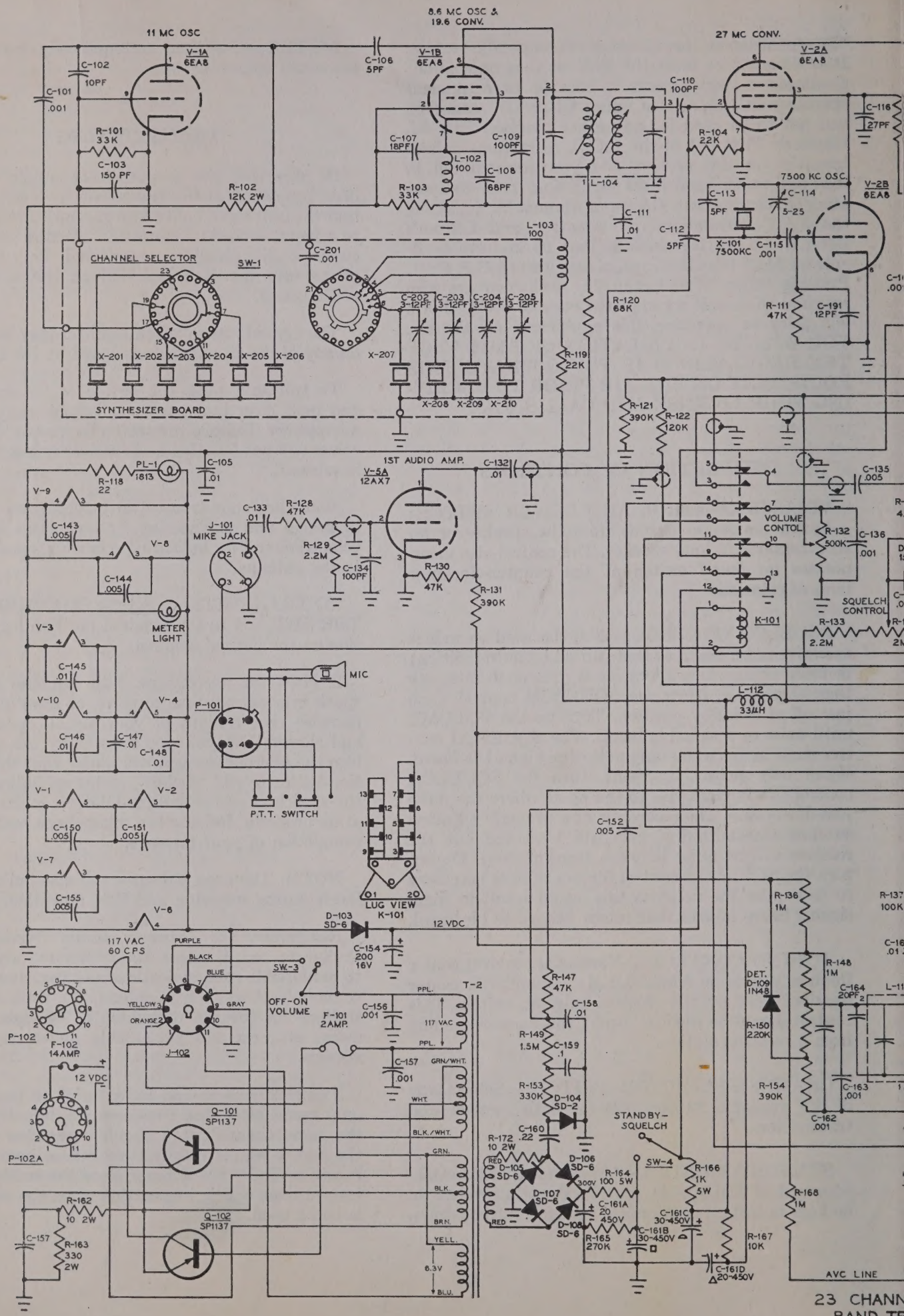
TO TRANSMIT:—1. Set the CHANNEL SELECTOR SWITCH to the required position for transmission on the desired channel.

2. Hold the microphone 2 to 4 inches away and speak in a normal tone of voice, as shouting will not increase the strength of your signal. Speak clearly and slower than you would normally. As you speak into the microphone you will notice that the modulation indicator will "flicker", giving an indication that the speech amplifier and modulator circuits are operating properly. Release the microphone switch at the completion of your message.

NOTE: The neon indicator will also indicate audio levels during receiving and P.A. operation.

Remember, the Citizen's Radio Service is not similar to the Amateur Radio Service with respect to permissible communications and that amateur type communications such as calling CQ, working distant stations for the fun of talking to someone that far away, etc., are not permissible under any circumstances.

Transmissions should be as brief as possible and only made after due consideration for others using the same channel. You should remember too, that the person who is transmitting cannot hear the comments made by the listener since the receiver at the transmitting end is inoperative when the transmitter is being used.



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KNIGHT MODEL 2565 PACKING LIST

_____ 1 ea. ASM-B0206 - Power Cord DC Assembly

_____ 1 ea. ASM-B0207 - AC Line Cord Assembly

_____ 1 ea. Mtg. Bracket Left (250-001-9-001)

_____ 1 ea. Mtg. Bracket Right (250-001-9-002)

_____ 2 ea. Side Mtg. Bracket (250-001-9-003)

_____ [redacted]

_____ 1 ea. Electrovoice Microphone w/Bracket (560-001-9-001)

_____ 1 ea. #0 Bag (502-003-9-001)

_____ 1 ea. Coin Envelope (502-004-9-001) consisting of the items below.

_____ 2 ea. #10-32 X 1" Slotted RHM Screw (631-016-1-106)

_____ 2 ea. #10-32 Hex Nut (651-212-1-108)

_____ 2 ea. 1/4 - 20 X 1/2 Slotted Hex Head (660-008-1-104)

_____ 8 ea. #4 X 3/8" Hex Slotted Type A (704-412-1-109)

_____ 2 ea. #10 Flat Washers (720-024-1-210)

_____ 1/4 X 1/16" Flat Washer (725-032-1-416) 2 ea.

_____ 2 ea. #10 E.T. Lockwasher (730-010-1-103)

_____ 1 ea. Shipping Damage Notice (491-003-9-001)

_____ 1 ea. F.C.C. Form #505 (491-006-9-001)

Packed By: _____

Return this Packing Slip, if any discrepancy occurs, with your comments and the serial number.

Serial No: _____

Comments: _____

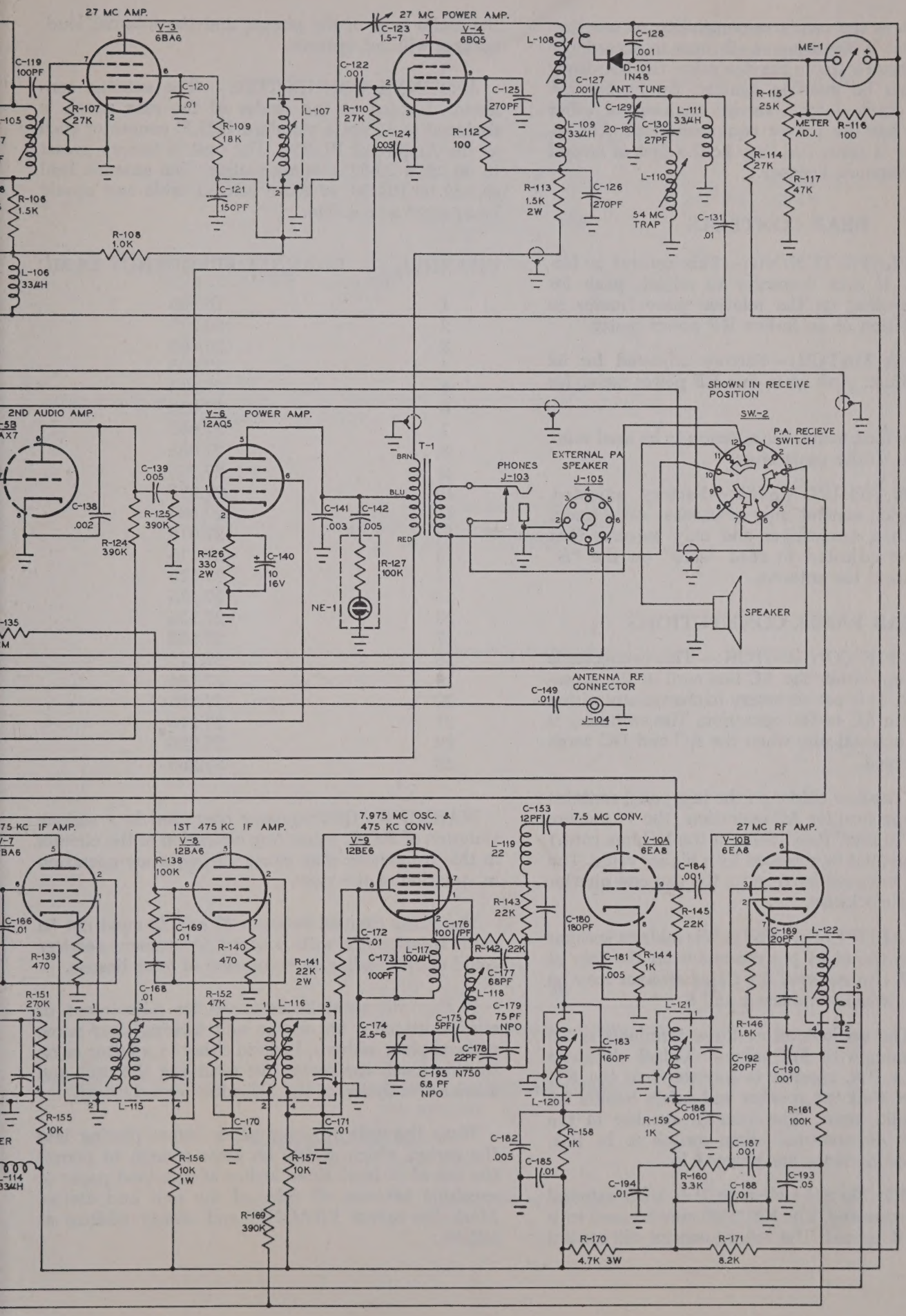
492-003-9-001

[redacted]

Packed By: _____

Comments: _____

Service No.: _____



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Finally, it is the user's responsibility to see that his equipment is operating at all times in accordance with the Citizen's Radio Service rules. Off-frequency operation can be guarded against, by having the transceiver checked by a service engineer or other person who has the proper equipment and skill required to use it (provided they hold a first or second class radiotelephone license).

REAR CONTROLS

FINAL PLATE TUNING:—This control is factory preset. If ever necessary to adjust, peak for maximum reading on the relative power meter in transmit position or an in-line RF power meter.

ANTENNA MATCH:—Factory adjusted for 52 ohms. To adjust, peak an in-line RF power meter for maximum.

For both adjustments, the antenna to be used must be connected to the transceiver.

S-METER ADJUSTMENT:—Factory adjusted. Set the squelch control fully clockwise. Adjustment is made with a screwdriver and only requires that the meter be adjusted to read "zero" on the "S" scale. Reconnect the antenna.

REAR PANEL CONNECTIONS

ELEVEN PIN CONNECTOR:—This connector is wired to accept either the AC line cord or the accessory DC cord. It is not necessary to change any wiring to switch from AC to DC operation. The switching is performed automatically when the AC and DC cords are interchanged.

FUSE:—The fuse holder on the rear panel contains the 2.0 ampere fuse for AC operation (the 14 ampere fuse in the "in line" fuse holder in the DC line cord.) This fuse must not be replaced by a higher value. The fuse may be removed by turning the cap one quarter turn counter-clockwise.

PUBLIC ADDRESS:—The public address speaker connection is the eight pin connector on the rear of the KN 2565. An external 3.2 OHM speaker may be connected between terminals 1 and 8.

NOTE: The audio level at these terminals is 2.5 watts minimum with full volume control clockwise rotation. If a P.A. speaker is connected to the KN 2565, be sure that the speaker will safely handle 5.0 watts of audio input. The internal speaker in the KN 2565 is disconnected when switch is in P.A. position or headphones are plugged in.

WARNING: Do not switch to P.A. with external speaker disconnected. The KN 2565 may be used with headphones if desired. The volume control will control the audio level of the phones and the internal loudspeaker will not operate.

ANTENNA CONNECTOR: — The antenna connector, located at the center of the rear panel, is designed to accept a standard U.H.F. connector such as the Amphenol PL-259. The unit is factory preset to match a 50-52 antenna system. The antenna lead should be RG-58, or RG-8 coaxial cable and should be as short as possible.

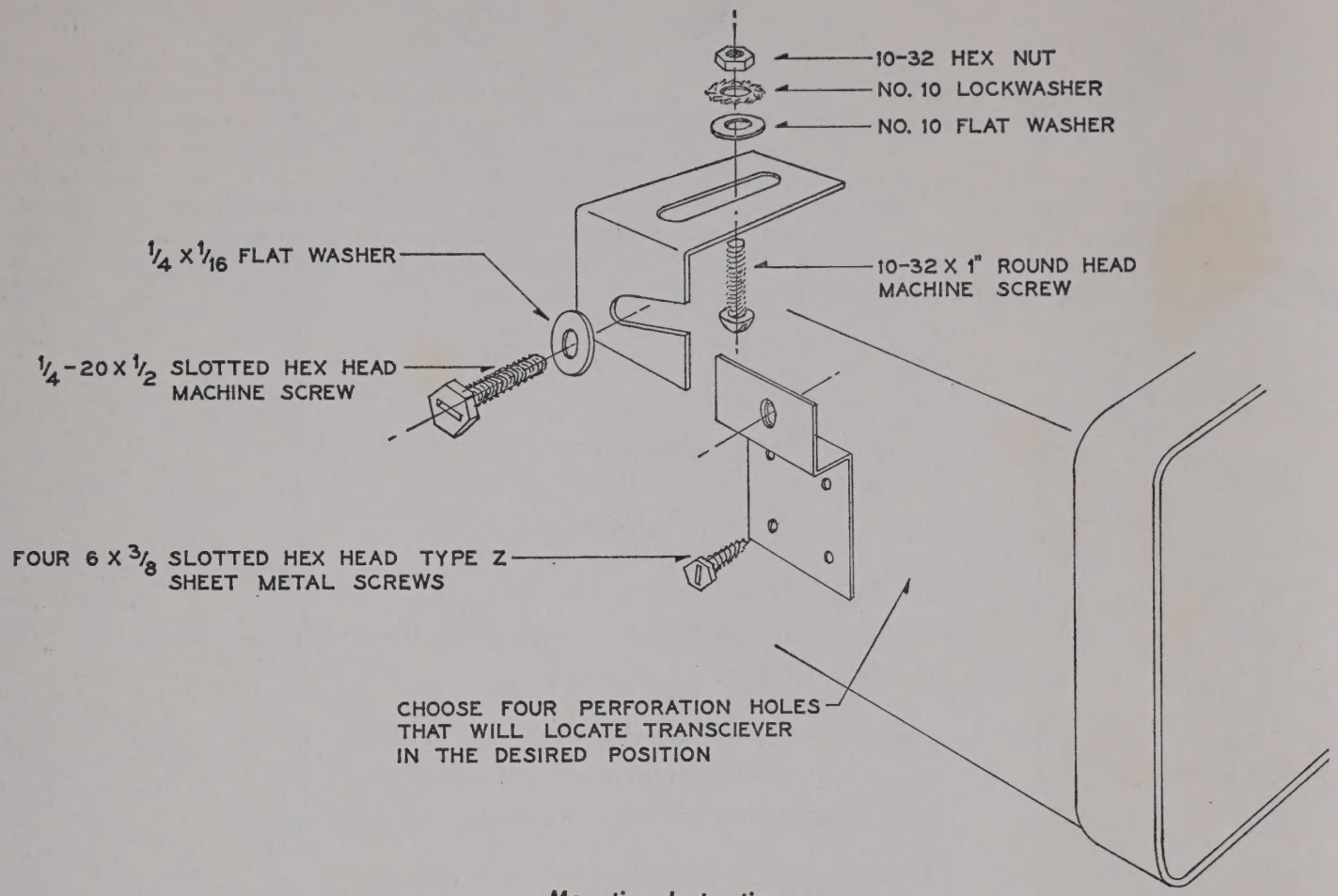
CHANNEL	CHANNEL FREQUENCY IN MC
1	26.965
2	26.975
3	26.985
4	27.005
5	27.015
6	27.025
7	27.035
8	27.055
9	27.065
10	27.075
11	27.085
12	27.015
13	27.115
14	27.125
15	27.135
16	27.155
17	27.165
18	27.175
19	27.185
20	27.205
21	27.215
22	27.225
23	27.255

WARNING: Off-frequency operation is a serious violation of F.C.C. rules. Any alteration of the circuits in this transceiver may cause off-frequency operation in violation of the rules.

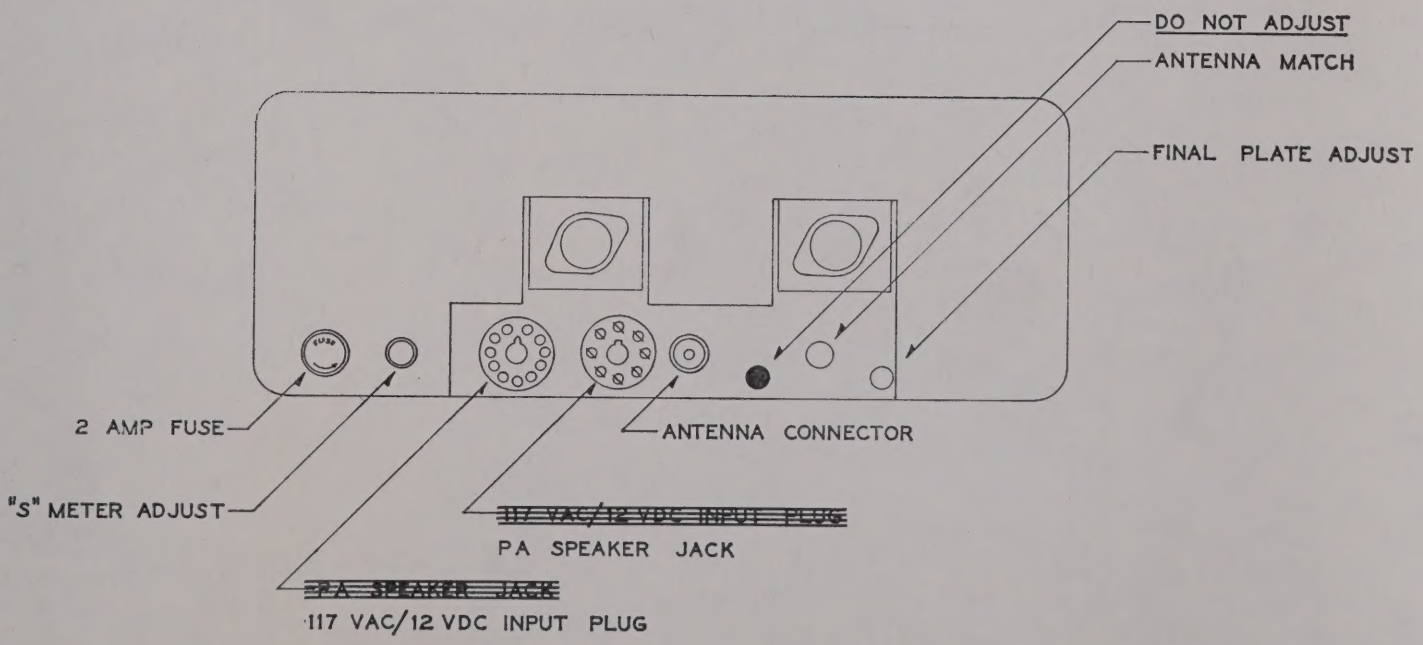
The blank channel between 22 and 23 must not be used. Interference with licensed government services could occur, leading to revocation of your license.

If the unit must be returned for adjustment or service, attach a tag to the unit bearing your name and complete address. Include either in a letter or on the tag itself, the reason for returning the unit and a brief description of the difficulties encountered.

Wrap the unit in heavy paper before placing into the carton which should be large enough to permit the use of at least three inches of shredded paper or excelsion between all sides of the unit and carton. Mark the carton FRAGILE and clearly address as follows:


10-32 HEX NUT
NO. 10 LOCKWASHER
NO. 10 FLAT WASHER
1/4 X 1/16 FLAT WASHER
10-32 X 1" ROUND HEAD MACHINE SCREW
1/4-20 X 1/2 SLOTTED HEX HEAD MACHINE SCREW
FOUR 6 X 3/8 SLOTTED HEX HEAD TYPE Z SHEET METAL SCREWS
CHOOSE FOUR PERFORATION HOLES THAT WILL LOCATE TRANSCIEVER IN THE DESIRED POSITION

Mounting Instructions



Rear View of KN 2565

TO:
ALLIED RADIO CORP.
100 North Western Ave.
Chicago 80, Illinois
Attn: Service Dept.

Include your name and address on the carton and ship by prepaid express. The unit will be returned to you by express collect. Bear in mind that the carrier will disclaim responsibility for damage, if, in his opinion, it was caused by improper packing.

Should such a defect occur, contact our customer Service Department informing us of the nature of the problem. Prior authorization and directions must be obtained before returning the product to Allied for service. Upon your receipt of a return authorization you may return the product to Allied, shipping the unit prepaid, fully insured and carefully packed to avoid damage in shipment. The unit will be returned to you by express collect. Bear in mind that the carrier will disclaim responsibility for damage, if in his opinion, it was caused by improper packing.

ONE YEAR GUARANTEE

Your Knight Transceiver is warranted to be free from defects and workmanship under normal use for a period of 1 year.

1. During first 90 days from date of sale we will at our option, either repair, or replace and install, any defective parts free of charge.
2. After 90 days and for the balance of the year we will replace all defective parts, charging ~~only or labor.~~ only for labor.